

Site

EPA Region 5 Records Ctr



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Team

L1158J40011-Macon Co
Waste Hauling, Inc
ILD 000671073
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Evaluation

Prioritization

ESI

CERCLA Report



**Illinois Environmental
Protection Agency**

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9/22/98

SITE TEAM EVALUATION PRIORITIZATION
WASTE HAULING, INC.

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1 SITE BACKGROUND

1.1 INTRODUCTION

On April 1, 1998, the Illinois Environmental Protection Agency's (IEPA) Site Assessment Program was tasked by the U S Environmental Protection Agency (U S EPA) to conduct a Site Team Evaluation Prioritization (STEP) of the Waste Hauling Landfill site in Macon County. The STEP is performed under the authority of the Comprehensive Environmental Response Compensation, and Liability Act (CERCLA), 40 CFR, 1980 as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, commonly known as Superfund. The STEP is intended to provide a preliminary screening of sites to facilitate U S EPA's assignment of site priorities.

In December 1983, Waste Hauling Landfill was initially placed on the Comprehensive Environmental Response Compensation and Liability Inventory System (CERCLIS) in response to the State of Illinois concerns that past site activities may have caused groundwater and/or surface contamination of the surrounding area.

In February of 1998 Illinois EPA's CERCLA Site Assessment Unit prepared a Site Team Evaluation Prioritization (STEP) Work Plan for Waste Hauling Landfill which was submitted to USEPA Region V offices for review. A site safety plan was also prepared in February 1998 and reviewed by the Illinois EPA's Office of Chemical Safety. The field activity portion of the inspection occurred on March 24 and 25, 1998. The CERCLA STEP Inspection included the collection of ten surface soil and sediment samples, two groundwater samples from the landfill, and two residential drinking water well samples.

1.2 SITE DESCRIPTION

Waste Hauling Incorporated is located on the west side of Decatur, Illinois Macon County in Northwest 1\4 Northwest 1\4 Section 26 of Township 16 North, Range 1 East of the 3rd Principal Meridian Waste Hauling is an inactive landfill located on Cantrell Road with topographic coordinates of latitude 39 degrees 48 minutes 50 seconds north and longitude 89 degrees 04 minutes 30 seconds west

The Waste Hauling, Inc site consists of approximately 40 acres located in a rural agricultural area southwest of Decatur, Illinois A forested area and the Sangamon River are located on the north perimeter of the site Agricultural land is located to the east of the landfill Two residences are located on the south end of the landfill property Forested areas are located on the west side of the landfilled areas

Waste Hauling Inc owns 400 acres around the landfill which stopped accepting waste since 1992 Three areas known as Area's 1, 2, and 3, covering approximately 40 acres, were permitted for landfill use by Illinois Environmental Protection Agency Land topography in the vicinity of the landfill is relatively flat except for the filled areas which are elevated as a result of landfill operations Surface drainage from the landfill property flows north to northwest toward the Sangamon River An intermittent stream flows through the landfill property toward the Sangamon River The stream first contacts the property at the southeast corner and flows in a north-northwest direction between fill Areas 3 and Area's 1 and 2 located on the opposite side (Figure 1)

Area's 1, approximately 5 5 acres, and area 2, approximately 8 acres were the first areas of the property to be used for landfilling purposes These areas of the landfill were not constructed with a liner under the fill material A clay lined berm, 15 feet wide and 5 feet high, exists around areas

1 and 2 which acts as a leachate collection system Area 3 is located west of Area's 1 and 2 and consists of approximately 14 acres in size Area 3 was constructed with a clay liner although this area is not well vegetated

The only groundwater monitoring on the property consists of one monitoring well This well is located on the north perimeter of Area 3 and was 20 feet deep Access to the landfill areas is unrestricted, although the access road has a locked gate preventing vehicle access The access road was located off Cantrell Road approximately two miles west of Wycles Road The landfill was not fenced or access restricted by landfill personnel at the time of this investigation

1.3 SITE HISTORY

According to information gathered during the Focused Site Inspection Prioritization report conducted in 1995 by Ecology and Environment, the history of Waste Hauling, Inc is as follows Mr Paul Mckinney purchased 40 acres from Nita Noland a local resident Mr Mckinney received a permit to operate a landfill and constructed Areas 1 and 2 Mr Mckinney operated the landfill from 1972 until 1979 After Areas 1 and 2 were closed, Mr Mckinney developed an additional area of the landfill, located to the west, known as Area 3 Area 3 was started in 1980 and was developed to accept special wastes including sludges, lubricants, oils, rubber wastes, and pathological hospital wastes

In 1980, Jerry Camfield of Decatur, Illinois, leased 80 acres from Nita Noland This parcel of land was located southwest of the McKinney Landfill Mr Camfield purchased an additional 320 acres from Nita Noland and started the company currently known as Waste Hauling, Inc Area 3 had been operated by Waste Hauling, Inc from 1980 until 1992 when a waste spill occurred Hazardous

constituents were detected in the spill materials. A soil covering was placed over Area 3 after landfill activities stopped in 1992 although this Area is not officially closed according to IEPA regulations.

1.4 REGULATORY STATUS

Waste Hauling, Inc. landfill has been inspected by IEPA due to citizen complaints of exposed refuse and unidentified tanker trucks entering the property. On June 16, 1987 IEPA performed a site inspection where environmental samples were collected. One sediment sample was collected on the property and one off site sediment sample was collected. One monitoring well groundwater sample was collected on the property from the northern part of the landfill property. Results from the groundwater sample indicated tetrachloroethane at 3 ppb. A surface water sample indicated vinyl chloride, 1,1-dichloroethane, trans 1,2-dichloroethene, trichloroethene and benzene.

A Screening Site Inspection was performed in 1992 where two leachate samples were collected. One leachate sample collected around Area 3 contained gamma chlorodane, lindane, 1,1-DCA, 1,1,1-trichloroethane, TCE, toluene, ethylbenzene and xylenes. The second sample was collected just upstream of where the intermittent stream meets the Sangamon River. Results of the second sample revealed concentrations of TAL/TCL compounds below contract required detection limits.

In April 1992 IEPA conducted a site inspection under a criminal search warrant on the Waste Hauling Landfill based on complaints of buried drums. Approximately 80-100 drums were dumped in Area 3 within daily refuse. A contractor was hired to excavate the area of the buried drums and 53 drums which contained toxic concentrations of 2-butanone and benzene were recovered.

In 1995 Ecology & Environment (E&E) performed a Focused Site Inspection Prioritization

of the Waste Hauling facility. During the investigation, two sediment samples and one surface water sample were collected. One sediment and surface water sample were collected approximately 200 feet downstream of where the stream on the landfill enters the Sangamon River. A background sediment and surface water sample were also collected approximately 2-3 miles upstream of the landfill. Analysis of sediment samples revealed the presence of both organic and inorganic contaminants downstream of the Probable Point of Entry (PPE) within the surface water pathway.

The site was required to come into compliance with Resource Conservation and Recovery Act (RCRA) Subtitle D permit for non hazardous landfills. Waste Hauling, Inc. has recently been fined by the Illinois Pollution Control Board and is being required to fulfill landfill closure requirements for Solid Waste Landfill Regulations Part 807 of IEPA regulations (Burger 1998). Under Part 807 regulations, the operator would have to monitor groundwater around the landfill, provide a proper landfill cover and provide post-closure care over the landfill for 30 years.

Given the years of operation and the federal and state environmental regulations which existed during this time, the site does not fall under the jurisdiction of the Atomic Energy Act (AEA), Toxic Substances Control Act (TSCA), Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), or the Uranium Mill Tailings Radiation Control Act (UMTRCA).

2. STEP ACTIVITIES

This section contains information gathered during the preparation of the formal CERCLA STEP Inspection and previous IEPA activities involving this site. Specific activities included an internal file search, field reconnaissance inspection, site representative interviews, and a sampling visit of the landfill property and surrounding area.

2.1 RECONNAISSANCE ACTIVITIES

A letter was sent to Waste Hauling, Inc addressed to Mr Jerry Camfield on February 9, 1998 to obtain site access On March 16, 1998, Mr Brad Taylor of the IEPA performed a site reconnaissance at the Waste Hauling Inc landfill property During the inspection, Mr Taylor met with Mr Camfield owner of the Waste Hauling landfill Mr Camfield unlocked the gate across the site access road although he was not present during the walk through inspection of the landfill Mr Dustin Burger of the IEPA Field Operations Section and Mr Carry Weir of Illinois Department of Public Health were present during the site reconnaissance inspection Mr Burger was knowledgeable about the condition of the landfill and previous environmental investigations The site reconnaissance included a visual inspection of the property to determine the locations of site waste management and containment measures Potential sampling locations from the property and private groundwater well users located near the landfill were identified during this pre-sampling site reconnaissance Surrounding land uses include residential properties to the south of Waste Hauling, forested and floodplain areas to the north, and forest to the east and southeast Surface water runoff from the property appears to drain into a stream located in between Areas 1-2 and Area 3 which flowed north toward the Sangamon River

Access to the landfill property was obtained by a gravel road which ran north of Cantrell Road A steel gate secured with a padlock was found at the entrance to the landfill access road which restricted vehicle access The gravel road was fenced on both the east and west sides and ended near the southeast corner of the Area 3 Vehicle access roads on the landfilled area of the property were subject to surface erosion Gullies eroded several feet in some areas of the landfill prevented vehicle access on the landfilled areas Surface erosion on the landfill slopes of Area 3 were also observed

with numerous leachate seeps in some of the severely eroded gullies Area's 1 and 2 were vegetated by grasses and small trees with only a small amount of surface erosion observed on the landfill slopes One monitoring well was observed on the north side of landfill Area 3 The monitoring well was constructed of PVC with a steel outer casing which was rusted and unlocked upon arrival

During the field reconnaissance visit leachate seeps were observed on the slopes of the landfill Area 3 A sheen and fowl odor were also observed on top of the water seeping out of the landfill in these areas where the leachate seeps were observed Numerous deer tracks were observed throughout the landfill property Empty shotgun shells on the landfill and deer stands placed in trees along the east perimeter of the landfilled areas indicate the property may be used for hunting

There was one building observed on the east side of Area 3 during the site reconnaissance The closest residence to the landfill property was observed south of the landfill property

Mr Taylor explained the field activities which would include the collection of soil, sediment monitoring wells and private residential well samples Mr Camfield, owner of Waste Hauling chose not to be present or collect split samples during the March 24 and 25, 1998 sampling event

2.2 SAMPLING ACTIVITIES

Illinois EPA personnel collected environmental samples on March 24 and 25, 1998 One groundwater sample was collected from the monitoring well located north of the landfill A second groundwater sample was collected, with a Geoprobe unit, south of the landfill along the landfill access road which was intended to show background groundwater conditions Groundwater samples were collected with a master flex pump and Teflon tubing Two private groundwater drinking wells

located south of the landfill, were sampled from outside faucets. Groundwater samples were collected to determine whether Waste Hauling Landfill is impacting local groundwater. Five shallow soil samples were collected from the landfill property. The purpose of collecting these samples was to help determine if the Waste Hauling Landfill property exceeded soil exposure levels. Human exposure was a potential concern due to the moderate amount of recreational use this property receives and nearby private residences. Three sediment samples were collected from the surface water stream which drains through the landfill areas and emptied into the Sangamon River. Sample descriptions and location of where samples were collected are listed on Table 1.0.

2.3 SAMPLING RESULTS

Following sample collection, all samples were transferred to containers provided by Illinois EPA's Contract Laboratory Program. The sample containers were packaged and sealed in accordance with IEPA's Bureau of Land Sampling Procedures Guidance Manual. Samples requiring organic analysis were sent to American Analytical and Technical Services in Broken Arrow, OK. Samples requiring inorganic analysis were sent to Sentinel, Inc. Huntsville, AL. Organic residential well samples were sent to PDP Analytical Services in Woodlands, TX. Inorganic residential well samples were sent to Central Region Lab in Chicago, IL. All received a quality assurance review known as Computer Aided Data Review and Evaluation, CADRE 2.3. A complete analytical data package for Waste Hauling is located in Appendix E (Volume 2 of the STEP report).

As illustrated in Table 2.0, laboratory analysis of the on-site soil samples revealed the presence of volatile, semi-volatile pesticides and inorganic contaminants at levels that significantly exceeded background concentrations.

Table 2 0 illustrates the laboratory analysis of sediment samples collected from the intermittent stream on the landfill and also the PPE. The results indicate that levels of semi-volatile contaminants were detected in sediment sample X203, designated as the PPE, which were not detected in the background sediment sample X201. Inorganic contaminants detected in sample X203 were not detected at levels significantly exceeding those concentrations detected in sample X201.

The laboratory analysis of an on-site monitoring well and Geoprobe groundwater sample are illustrated in Table 2 1. The results indicate that methylene chloride, trichloroethene, bis(2-ethylhexyl)phthalate and arsenic are present in the groundwater under the landfill.

Private groundwater well analysis from samples collected during the 1998 field activities are illustrated in Table 2 1. Groundwater used from these private wells are used for drinking purposes and were compared to MCLs. Levels of contaminants in private well samples remained below residential drinking water criteria.

3 0 SITE SOURCES

Information obtained throughout this CERCLA investigation has identified the landfill as the primary source type at the Waste Hauling site. Given the limited nature of the Site Team Evaluation Prioritization and consequently the inability of this investigation to fully characterize the site, the possibility exists that future remedial investigative activities may provide additional information that will lead to a more comprehensive understanding of this source or the identification of additional areas of concern.

3.1 LANDFILL

The Waste Hauling landfill operated from 1972 through 1992 and covered approximately 40 acres. Approximate boundaries of the three landfill areas are shown on a 1993 aerial photograph (Figure 1).

Soil samples X102 through X107 were collected within the first three inches from five locations on the landfill property. Analytical results revealed that a number of contaminants were present at each of the locations at least three times above background levels. Sample X101 was collected from residential property, south of the landfill and independent of landfill activities, to establish background levels. Samples X102 through X107 were collected from leachate seeps observed on the landfill. These sample locations detected elevated levels of Poly Aromatic Hydrocarbons (PAHs) and inorganic contamination. Samples collected on the landfill property during the STEP investigation did not exceed CERCLA Program Removal Action Levels.

Two groundwater samples collected during the STEP investigation indicated the presence of vinyl chloride, 1,2-dichloroethane, benzene, tetrachloroethene, bis(2-ethylhexyl)phthalate, lead and manganese at elevated concentrations. Private groundwater samples collected south of the landfill indicated that no levels of contaminants were detected above health concerns.

MIGRATION PATHWAYS

The CERCLA Site Assessment Program identifies three migration pathways and one exposure pathway, as identified in CERCLA's Hazard Ranking System, by which hazardous substances may pose a threat to human health and/or the environment. Consequently, sites are evaluated on their known or potential impact to these pathways. The pathways evaluated are

groundwater migration, surface water migration, soil exposure, and air migration

4.1 GROUNDWATER PATHWAY

The general geology of Decatur, Illinois consists mainly of unconsolidated glacial deposits which range up to 300 feet deep. These unconsolidated deposits are made up of silt, clay and sand and gravel mixtures. Glacial deposits are deeper along the Sangamon River near Decatur when compared to areas located further away from major rivers. According to records from the Illinois State Water Survey, private wells in the Decatur area are supplied by groundwater drawn from the unconsolidated glacial deposits. This unit is underlain by a bedrock formation which consists of a Pennsylvanian shale. The Pennsylvanian bedrock can only produce small quantities of groundwater. A more detailed description of site specific geology can be found in the 1995 Focused Site Inspection Report.

The city of Decatur utilizes surface water from Lake Decatur which is approximately four miles upstream (east) of the landfill. There were no municipal drinking groundwater wells found to exist within the four-mile target distance limit of the site. Harristown, located approximately 2 miles northwest of the landfill, receives groundwater from municipal wells located near Niantic, Illinois. Residential populations outside the municipal limits of Decatur utilize groundwater from the glacial drift aquifer. According to a CERCLA Screening Site Inspection, approximately 993 persons living within four miles of the landfill utilize shallow glacial drift groundwater supplies for private drinking water. The closest private well currently used for drinking purposes was located approximately 1200 feet south of the landfill. Groundwater appears to flow toward the Sangamon River, in the immediate vicinity of the landfill, on the basis of the ground surface topography.

decreases toward the river and also the Sangamon River is the only major nearby surface water which tends to influence groundwater flow. Additional groundwater monitoring wells would need to be installed around the perimeter of the landfill to further define the groundwater flow direction beneath Waste Hauling.

The groundwater sample collected during the CERCLA STEP investigation from the on-site monitoring well revealed volatiles, semivolatiles, and inorganic constituents. These contaminants were compared to a groundwater sample collected south of the landfill which did not detect the same contaminants, therefore a release to groundwater was documented. Table 2.1 illustrates a summary of the contaminants detected in the groundwater samples. Vinyl chloride, benzene, tetrachloroethene, and manganese exceeded the Maximum Contaminant Level (MCL). Benzene, 1,2 dichloroethene, tetrachloroethene, bis(2-ethylhexyl)phthalate and manganese, detected in groundwater from the landfill property, exceeded the Superfund Chemical Data Matrix (SCDM) Drinking Water Benchmark. Groundwater drawn from the monitoring well was not used for drinking purposes. Private drinking water samples, collected south of the landfill, contained one volatile, one semivolatile and seven inorganic constituents. These constituents detected in private wells did not exceed SCDM's Drinking Water Benchmarks.

4.2 SURFACE WATER PATHWAY

The surface water pathway starts where surface runoff from the property enters the first perennial water body. This location is defined as the Probable Point of Entry (PPE). The PPE for Waste Hauling is located at the confluence of the stream on the property and the Sangamon River. Sample X203 was identified as the PPE for Waste Hauling. The stream on the landfill property first

enters the southeast corner and flows north-northwest before flowing into the Sangamon River see Figure 1 The Sangamon River flows west 15 miles before reaching the Target Distance Limit (TDL) near Mount Auburn, Illinois Area's 1 and 2 are located on the east side of the intermittent stream and Area 3 was located on the west side Surface water drainage, along with leachate coming out of the landfill slopes from Waste Hauling property drain into the intermittent stream which flows into the Sangamon River

Several targets were found to exist within the 15-mile target distance limit According to the National Wetlands Inventory maps forested wetland frontage are found throughout the TDL located in the Sangamon River The Sangamon River is used as a fisheries according to Illinois Department of Natural Resources Illinois Department of Natural Resources Database shows there are known Illinois Natural Areas within the 15-mile target distance limit A State Park known as Lincoln Trail Homestead was identified approximately two miles downstream from Waste Hauling Long Point Slough natural area was also identified at approximately 7 to 8 miles downstream of the Waste Hauling Landfill

There were no surface water samples collected from the intermittent stream or the Sangamon River during this STEP inspection However three sediment samples were collected from the intermittent stream on landfill property The purpose of collecting sediments from the stream was to determine whether surface runoff from the landfill had impacted the intermittent stream and also the Sangamon River Sediment sample X203 collected from the PPE contained semi-volatile compounds significantly above levels detected within background sample X201 Inorganic constituents detected in sample X203 include cadmium calcium and manganese which exceeded at least three times the levels of constituents detected upstream of the landfill Analytical results for

X203 can be used to document a release of contaminants to the surface water pathway

4.3 SOIL EXPOSURE PATHWAY

The Macon County Soil Survey identifies the soil types of the Waste Hauling landfill as Orthents loamy undulating soil. These soils are classified as moderately drained to poorly drained soils which have been modified by filling and leveling. Surface soils are approximately 10 inches thick of a grayish brown clay loam. Underlying soils consist of layers of brown and dark brown clay and silty clay loams.

As mentioned previously the property receives moderate recreational use without access restrictions noted. Indications of hunting and/or target shooting were observed on the landfill property. These signs include shotgun shells scattered throughout the site and deer hunting stands located in the trees along the north and east perimeters of the landfill and Sangamon River. The closest residence is located south of the landfill. The area to the south of the site, along Cantrell Road, is sparsely populated with single family housing. Within 200 feet of the landfill property there are no schools or day care facilities observed during the site reconnaissance.

Six shallow soil samples were collected from the landfill property during this STEP inspection. The results are listed in Table 2.0. Levels of volatiles, semi-volatiles, and inorganic constituents were detected at least three times and/or above background concentrations. A background soil sample was collected from residential property, south of Area 3. Benzo(a)pyrene detected in soil samples collected on Waste Hauling property was the only contaminant which exceeded soil exposure benchmarks listed in Superfund Chemical Data Matrix.

Nearby population within one-mile of Waste Hauling Landfill

Distance (miles)	Population
On-site	6
1/4 to 1/2	24
1/2 to 1	335

4.4 AIR PATHWAY

No air samples were collected, nor were any air releases observed during the field inspection. The potential does exist for contaminants to be carried away from the landfill property due to contaminants found in surficial materials. Surface soil was vegetated except for small scattered areas of leachate seeps around the landfill slopes of Area 3 which was void of any vegetation. Gas releases were observed during the site reconnaissance in the leachate ponded water areas where odors of decaying organic materials were noted. The likelihood that materials could be carried to neighboring properties via air dispersion is low due to the vegetated soil covering.

The population of the rural community within one mile of the site is approximately 366 people. Only one shallow residential soil sample was collected during this STEP inspection which was intended to show potential soil background conditions.

5.0 ADDITIONAL RISK-BASED OBJECTIVES

This section provides a comparison of data generated during STEP activities with additional analytical benchmarks. These benchmarks compare soil, sediment, and/or groundwater data with specific risk-based criteria. The objectives discussed in this section have

not been used to assess the site for Hazard Ranking System purposes. Contaminants listed in the tables below which do not have benchmarks established are noted Not Available (NA) and cannot be evaluated at this time.

5.1 TIERED APPROACH TO CORRECTIVE ACTION OBJECTIVES (TACO)

The Illinois EPA's TACO guidance document (which became effective July 1, 1997), can be used to develop site specific remediation objectives for sites being addressed under the Illinois Site Remediation Program. This document discusses key elements required to develop risk-based remediation objectives, how background values may be used, and provides guidance through three tiers of the risk-based approach. The Illinois EPA uses this guidance and the groundwater standards established in 36 IL Adm. Code 620 to determine soil and groundwater remediation objectives.

5.1.1 TACO Soil Objectives

The soil contaminants from the 1998 CERLCA investigation will be compared to the soil corrective action objectives established for industrial/commercial properties, with the inhalation, ingestion, and migration to groundwater pathways each evaluated. Tier 1 consists of "look-up" tables, which consider limited site-specific information and are based on simple numeric models. Soil samples detected carbazole, alpha-bhc and arsenic at levels exceeding TACO Tier 1 corrective action objectives. Carbazole was detected at levels exceeding Tier 1 objectives in sample X105. Alpha-BHC was detected in sample X106 which exceeded Tier 1 objectives. Arsenic was detected at levels exceeding Tier 1 objectives in samples' X102, X103, X105, X106 and X107. A table representing a comparison of soil samples to TACO objectives is found below.

SITE NAME WASTE HAULING		TACO SOIL OBJECTIVES						
ILD 000671073								
SAMPLING POINT	SOIL CLEANUP OBJECTIVES	X101 Backgrd	X102	X103	X104	X105	X106	X107
PARAMETER								
VOLATILES								
(ug/kg or ppb)								
Methylene Chloride	20 0	—	90 J	—	—	—	—	—
Acetone	16000 0	—	960 0 J	110 0 J	2800 0 J	—	7900 0 J	—
1,2-Dichloroethane	20 0	—	—	—	—	—	—	50 J
2-Butanone (MEK)	NA	—	170 0 J	—	1600 0 J	—	—	—
Toluene	12000 0	—	40 J	—	—	40 J	—	—
Ethylbenzene	13000 0	—	—	—	—	60 J	—	—
Xylene(total)	150000 0	—	—	80 J	—	37 0	—	—
SEMIVOLATILES								
(ug/kg or ppb)								
Phenol	100000 0	—	—	—	—	—	240 0 J	—
2-Methylphenol	15000 0	—	2600 0	—	—	—	—	—
4-Methylphenol	NA	—	—	2500 0	680 0	260 0 J	2000 0	—
2,4-Dichlorophenol	NA	—	24 0 J	28 0 J	—	—	—	—
Naphthalene	84000 0	—	—	—	64 0 J	810 0 J	—	—
4-Chloro-3-Methylphenol	NA	—	31 0 J	35 0 J	—	—	—	—
2-Methylnaphthalene	NA	—	—	—	28 0 J	400 0 J	—	—
Acenaphthene	570000 0	—	—	—	59 0 J	1200 0 J	—	—
Dibenzofuran	NA	—	—	—	59 0 J	1300 0 J	—	—
Diethylphthalate	NA	—	56 0 J	49 0 J	61 0 J	—	—	—
Fluorene	560000 0	—	—	—	76 0 J	1800 0	25 0 J	—
Phenanthrene	NA	—	22 0 J	60 0 J	470 0	7000 0	86 0 J	—
Anthracene	12000000 0	—	—	—	69 0 J	910 0 J	—	—
Carbazole	600 0	—	—	—	140 0 J	1100 0 J	—	—
Di-n-Butylphthalate	2300000 0	28 0 J	24 0 J	21 0 J	—	—	—	—
Fluoranthene	4300000 0	—	—	43 0 J	540 0	4400 0	56 0 J	—
Pyrene	4200000 0	—	—	34 0 J	380 0 J	3000 0	37 0 J	—
Butylbenzylphthalate	930000 0	—	37 0 J	38 0 J	—	—	—	—
Benzo(a)anthracene	2000 0	—	—	—	150 0 J	710 0 J	—	—
Chrysene	160000 0	—	—	—	160 0 J	660 0 J	—	—
bia(2-Ethylhexyl)phthalate	410000 0	18 0 J	130 0 J	140 0 J	78 0 J	640 0 J	23 0 J	—
Benzo(b)fluoranthene	5000 0	—	—	—	82 0 J	430 0 J	—	—
Benzo(k)fluoranthene	49000 0	—	—	—	110 0 J	320 0 J	—	—
Benzo(a)pyrene	800 0	—	—	—	95 0 J	420 0 J	—	—
Indeno(1,2,3-cd)pyrene	8000 0	—	—	—	58 0 J	210 0 J	—	—
Dibenz(a,h)anthracene	800 0	—	—	—	31 0 J	100 0 J	—	—
Benzo(g,h,i)perylene	NA	—	—	—	65 0 J	210 0 J	—	—
PESTICIDES								
(ug/kg or ppb)								
alpha-BHC	0.5	—	—	—	—	—	7.2 J	—
Heptachlor	1000 0	—	—	—	—	—	9.2 J	—
Dieldrin	40	—	—	—	—	19 J	—	—
Endrin	1000 0	—	—	—	—	48 J	—	—
Endosulfan II	18000 0	—	—	—	—	80 J	—	—
Endosulfan sulfate	NA	—	—	—	—	—	2.7 J	—
4,4'-DDT	17000 0	—	—	—	18 J	190 J	—	—
Methoxychlor (Marlate)	160000 0	—	—	26 0 J	—	—	25 0 J	—
Endrin Ketone	1000 0	—	—	—	—	30 J	83 J	—
Endrin aldehyde	NA	—	51 J	69 J	—	45 J	98 J	28 J
alpha-Chlorodane	4000 0	—	—	—	—	32 J	—	—
Aroclor 1254	1000 0	—	—	—	—	100 0	—	—
INORGANICS								
(mg/kg or ppm)								
Aluminum	NA	4780 0	6190 0	4460 0	3130 0	11100 0	12300 0	5270 0
Arsenic	3.0	2.9	8.8	4.0	1.4	3.4	6.7	8.8
Barium	14000 0	59.8	59.3	41.7	35.7	81.2	85.0	126.0
Beryllium	1.0	0.3	0.5	0.4	0.2 J	0.2 J	0.5	0.2
Calcium	NA	1020 0 J	23800 0 J	19100 0 J	26300 0 J	32000 0 J	3330 0 J	55300 0 J
Chromium	420 0	6.3	10.2	7.3	5.2	10.7	12.7	9.1
Cobalt	12000 0	6.1	8.3	4.8	3.1	4.5	8.5	8.1
Copper	8200 0	86 J	23.8 J	15.4 J	6.0 J	33.8 J	25.5 J	16.8 J
Iron	NA	8230 0	26200 0	14100 0	11000 0	14600 0	38800 0	29700 0
Lead	400 0	12.4	23.2	11.8	5.3	15.6	24.8	7.3
Magnesium	NA	942 0 J	9300 0 J	9030 0 J	5260 0 J	6430 0 J	2160 0 J	25400 0 J
Manganese	8700 0	446 0	610 0	272 0	280 0	650 0	263 0	732 0
Nickel	4100 0	7.9	15.4	9.5	5.8	16.7	14.2	15.0
Potassium	NA	722 0 J	1380 0 J	942 0 J	633 0 J	734 0 J	1380 0 J	685 0 J
Silver	1000 0	0.4 J	1.2 J	0.5 J	0.5 J	0.8 J	1.8 J	1.4 J
Sodium	NA	78.7	550.0	389.0	728.0	514.0	357.0	344.0
Vanadium	1400 0	12.3	18.1	11.1	8.0	8.5	25.9	16.6
Zinc	61000 0	40 0 J	403 0 J	301 0 J	26.8 J	196 0 J	129 0 J	58 0 J
Cyanide	4100 0	0.3	0.1	0.3	0.2	—	0.8	—

Source: Tiered Approach To Corrective Action Objectives (TACO) Tier 1 Industrial/commercial properties

Bold concentrations are those which exceed the TACO Tier 1 Industrial/commercial value

NA: Benchmark Not Available

5.1.2 TACO Groundwater Objectives

The author of this report has concluded that groundwater beneath the site can be classified as Class I groundwater. The decision was based upon the fact that the site was located in an area where groundwater is used by private residences for drinking purposes. Groundwater samples collected from private residences did not contain levels of contaminants which exceeded the Class 1 groundwater corrective action objectives.

Groundwater monitoring well sample G103\G104 (duplicate of G103) detected vinyl chloride, benzene, tetrachloroethene, bis(2-ethylhexyl)phthalate, lead and manganese which exceeded Class I groundwater corrective action objectives. The groundwater well, G103\G104, was not used for drinking purposes although it was compared to Maximum Contaminant Levels (MCLs) for drinking water. Analysis of sample G101 was intended to represent background groundwater conditions; detected lead which exceeded TACO Class 1 groundwater objectives. The field blank collected along with the monitoring wells also contained lead at a level which exceeded the Class 1 value.

SITE NAME: WASTE HAULING		TACO GROUNDWATER OBJECTIVES									
ILD 000871073											
SAMPLING POINT	TACO CLASS 1	G101	G103	G104	Field Blank	Trip Blank	G201	G202	G203	Field Blank	Trip Blank
PARAMETER											
VOLATILES (ug/l or ppb)											
Vinyl Chloride	2.0	—	8.0 J	7.0 J	—	—	—	—	—	—	—
Chloroethane	NA	—	110.0	97.0	—	—	—	—	—	—	—
Methylene Chloride	5.0	—	2.0 J	2.0 J	—	—	—	—	—	—	—
Acetone	700.0	—	—	—	14.0 J	—	—	9.0	—	14.0	—
1,1-Dichloroethane	700.0	—	44.0 J	38.0 J	—	—	—	—	—	—	—
1,2-Dichloroethane (total)	70.0	—	48.0	43.0	—	—	—	—	—	—	—
1,2-Dichloroethane	5.0	—	2.0 J	2.0 J	—	—	—	—	—	—	—
1,1,1-Trichloroethane	200.0	—	8.0 J	5.0 J	—	—	—	—	—	—	—
Trichloroethene	5.0	—	4.0 J	3.0 J	—	—	—	—	—	—	—
Benzene	5.0	—	5.0 J	4.0 J	—	—	—	—	—	—	—
Tetrachloroethene	5.0	—	15.0	14.0	—	—	—	—	—	—	—
SEMIVOLATILES (ug/l or ppb)											
Diethylphthalate	5.0	—	—	0.6 J	—	—	—	—	—	—	—
Butylbenzylphthalate	1400.0	—	2.0 J	—	—	—	—	—	—	—	—
Chrysene	NA	—	—	—	—	—	—	—	1.0 J	—	—
bis(2-Ethylhexyl)phthalate	6.0	—	120.0 J	—	—	—	—	—	—	—	—
PESTICIDES (ug/l or ppb)											
INORGANICS (ug/l or ppb)											
Aluminum	NA	38.8 J	—	68.3 J	61.9 J	—	—	—	—	—	—
Arsenic	50.0	—	—	—	3.2 J	—	—	—	—	—	—
Barium	2000.0	70.7	161.0	157.0	2.0	52.0	40.4	42.4	—	—	—
Cadmium	5.0	—	—	2.3 J	0.6	—	—	—	—	—	—
Calcium	NA	74100.0	136000.0 J	132000.0 J	458.0 J	134000.0	86800.0	88400.0	—	—	—
Chromium	100.0	—	0.8 J	2.7 J	0.7 J	—	—	—	—	—	—
Cobalt	1000.0	—	18.2	17.0	—	—	—	—	—	—	—
Copper	650.0	118.0 J	6.4 J	167.0 J	63.9 J	—	—	6.1	—	—	—
Iron	5000.0	113.0 J	68.4 J	94.4 J	49.4 J	330.0	142.0	142.0	—	—	—
Lead	7.5	11.4 J	2.1 J	38.8 J	38.0 J	—	—	—	—	—	—
Magnesium	NA	40400.0	72100.0	69700.0	163.0 J	72800.0	39600.0	40500.0	—	—	—
Manganese	150.0	96.7 J	1080.0	1050.0	20.4	24.0	6.1	—	—	—	—
Mercury	2.0	—	0.3	—	—	—	—	—	—	—	—
Nickel	100.0	—	66.8	62.4	—	—	—	—	—	—	—
Potassium	NA	318.0 J	5680.0	5730.0	111.0	1840.0	7050.0	7050.0	—	—	—
Selenium	50.0	3.2	—	—	—	—	—	—	—	—	—
Sodium	NA	9580.0	202000.0	193000.0	357.0	38400.0	23200.0	26000.0	—	—	—
Vanadium	49.0	—	—	0.9	—	—	—	—	—	—	—
Zinc	5000.0	5.5 J	4.4 J	32.7 J	28.4	—	—	—	—	—	—
Cyanide	200.0	—	—	1.0	—	—	—	—	—	—	—

Groundwater samples G101, G103, G104 were collected from monitoring wells located on Waste Hauling, Inc. property.

Samples G201, G202 and G203 were collected from residential private wells.

NA: Benchmark Not Available

Bold concentrations exceed Class 1 values.

5.2 ECOLOGICAL SEDIMENT SCREENING BENCHMARKS

The sediment samples collected from the intermittent stream and also at the PPE were compared to ecological benchmarks to help determine whether site activities have adversely impacted ecological systems within the surface water pathway. Two sources of benchmarks were used for this comparison: Ontario sediment quality guidelines and U.S. EPA ecotox thresholds. Ontario sediment quality guidelines are non-regulatory ecological benchmark values that serve as indicators of potential aquatic impacts. Levels of contaminants below Ontario benchmarks indicate a level of pollution which has no effect on the majority of the sediment-dwelling organisms. Contaminants for which no Ontario benchmarks were available were compared to U.S. EPA ecotox thresholds. Ecotox thresholds are ecological benchmarks above which there is sufficient concern regarding adverse ecological effects to warrant further site investigation. Ecotox thresholds are to be used for screening purposes and are not regulatory criteria, site-specific cleanup standards or remediation goals.

Within sediment sample X203, levels of silver and cyanide were detected above Ontario Sediment Standards. Contaminants which are listed in bold on the Ontario Sediment Standard table were detected at higher concentrations in sediment X201 and therefore do not appear to be attributable to Waste Hauling property. Chromium and silver were detected at levels exceeding Ecotox Threshold benchmarks listed in the table below. These contaminants were detected at higher concentrations in sediments collected in the intermittent stream, upstream of the landfill and do not appear to be attributable to the landfill.

SITE NAME WASTE HAULING		Ontano Sediment Standards				
ILD 000671073						
SAMPLING POINT	LEL	SEL	X201	X202	X203	
PARAMETER						
VOLATILES						
(ug/kg or ppb)						
SEMIVOLATILES						
(ug/kg or ppb)						
Total PAH s	2000 0	11000000 0	--	92 0	265 0	
PESTICIDES						
(ug/kg or ppb)						
Methoxychlor (Manate)	NA	NA	8 2 J	--	--	
alpha Chlorodane	7 0	6000 0	2 4 J	--	--	
gamma Chlorodane	7 0	6000 0	3 5 J	--	--	
INORGANICS						
(mg/kg or ppm)						
Aluminum	NA	NA	6700 0	6680 0	6870 0	
Arsenic	6 0	33 0	6 7	2 2	2 7	
Banum	NA	NA	140 0	52 5	105 0	
Beryllium	NA	NA	0 5	0 4	0 4	
Cadmium	0 6	10 0	--	0 2	--	
Calcium	NA	NA	5340 0 J	17700 0 J	5160 0 J	
Chromium	26 0	110 0	11 7	10 6	9 2	
Cobalt	50 0	NA	20 2	5 9	5 4	
Copper	16 0	110 0	18 6 J	12 1 J	12 2 J	
Iron	20000 0	40000 0	15400 0	11000 0	10600 0	
Lead	31 0	250 0	30 4	10 6	14 1	
Magnesium	NA	NA	3300 0 J	9750 0 J	2840 0 J	
Manganese	460 0	1100 0	1810 0	346 0	405 0	
Nickel	16 0	75 0	13 9	12 7	10 6	
Potassium	NA	NA	855 0 J	968 0 J	1050 0 J	
Silver	0 5	NA	29 8 J	0 6 J	0 6 J	
Sodium	NA	NA	115 0	179 0	113 0	
Vanadium	NA	NA	23 0	15 6	15 1	
Zinc	120 0	820 0	46 0 J	40 0 J	49 1 J	
Cyanide	0 1	NA	0 1	0 1	0 1	

Source GUIDELINES FOR THE PROTECTION AND MANAGEMENT OF AQUATIC SEDIMENT
QUALITY IN ONTARIO

LEL Lowest Effect Level

SEL Severe Effect Level

Bold numbers show concentrations which are equal to or exceed a benchmark value

NA Not Applicable

SITE NAME WASTE HAULING		ECOTOX THRESHOLD BENCHMARKS			
ILD 000671073		Sediment Samples			
SAMPLING POINT	Ecotox Threshold	X201	X202	X203	
PARAMETER					
VOLATILES					
(ug/kg or ppb)					
SEMIVOLATILES					
(ug/kg or ppb)					
Total PAH s	4000 0	--	92 0	265 0	
Fluoranthene	2900 0	--	27 0 J	37 0 J	
Pyrene	660 0	--	24 0 J	34 0 J	
Butylbenzylphthalate	NA	--	--	34 0 J	
Benzo(a)anthracene	NA	--	--	25 0 J	
Chrysene	NA	--	--	26 0 J	
Benzo(b)fluoranthene	NA	--	--	32 0 J	
Benzo(k)fluoranthene	NA	--	21 0 J	22 0 J	
Benzo(a)pyrene	430 0	--	--	32 0 J	
Benzo(g,h,i)perylene	NA	--	--	23 0 J	
INORGANICS MG/KG (PPM)					
Chromium	12	117	106	92	
Cobalt	NA	202	59	54	
Copper	340	186 J	121 J	122 J	
Iron	NA	15400 0	11000 0	10600 0	
Lead	470	304	106	141	
Magnesium	NA	3300 0 J	9750 0 J	2840 0 J	
Manganese	NA	1810 0	346 0	405 0	
Nickel	210	139	127	106	
Potassium	NA	855 0 J	968 0 J	1050 0 J	
Silver	05	298 J	06 J	06 J	
Sodium	NA	1150	1790	1130	
Vanadium	NA	230	156	151	
Zinc	1500	460 J	400 J	491 J	
Cyanide	NA	01	01	01	

Source USEPA Ecotox Sediment Screening Benchmarks

* Bold numbers show concentrations which are equal to or exceed a benchmark value

NA - Not Applicable

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USGS, Harrisonstown, Illinois Quadrangle, 7 5 Minute Series

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TABLE 10

SAMPLE DESCRIPTIONS

SAMPLE	DEPTH	APPEARANCE	LOCATION
G101		Water remained orange colored during sample collection	This Geoprobe groundwater sample was collected along the access road to the landfill Approximately 100 yards north of Cantrell Road
G103\G104		Water was clear in color Water had a smell which resembled paint thinner	Monitoring well was located on the north side of Area 3
G201		Water appeared clear and no odor was noted	Well was located on the east side of the residence Water sample was collected from an outside faucet located east of the home Water travels through a charcoal filter before it enters the home
G202\G203		Water was clear in color There were no problems noted during collection	Residence located east of the landfill access road on Cantrell Road Outside faucet located on the northwest corner of the home
X101	1 3 inches	Soil was a light brown sandy clay Area had heavy grass vegetation	Sample was collected from private property south of the landfill Collected from same location as G201
X102\X103	0-2 inches	Soil was a dark black sandy silt. A lot of organic material	Sample collected from a leachate seep along the south slope of the southeast corner of Area 3
X104	0-2 inches	Sandy silt with some clay Orange staining and black colored leachate	Leachate sample taken from the southwest corner of Area 3
X105	0 2 inches	Light sandy silt dark black leachate with a sheen on top of the water	Soil taken from a leachate seep from the top of Area 3 This seep was located where hazardous waste drums were removed in 1992
X106	0 3 inches	Soil was a sandy silt Leachate was a reddish black color with foul odor	Soil sample taken from a leachate seep collected from the southeast corner of Area 3
X107	0-3 inches	Gray clay with reddish orange leachate	Sample collected from a leachate seep coming out of the southeast corner of Area 3 along the west bank of the excavated pond
X201	2-4 inches	Sandy clay with black streaks a lot of organic material observed	Sediment sample collected from the intermittent stream along the east edge of the property This sample was collected to represent stream conditions upstream of the landfill
X202	0-3 inches	Sediment was a silty clay A small amount of organic material observed	Sediment sample taken from the north end of the excavation pond Sample was collected before surface drainage reached the intermittent stream
X203	0-3 inches	Sediment was a sandy gray clay with gravel A slight sheen observed on top of the water and dead fish present	Sediment sample taken from the intermittent stream approximately 50 yards upstream of the confluence with the Sangamon River

SITE NAME: WASTE HAULING		Table 2.0 Soil and Sediment Sample Results								
ILD 000671073										
SAMPLING POINT	X101	X102	X103	X104	X105	X106	X107	X201	X202	X203
PARAMETER	Background									
VOLATILES										
(ug/kg or ppb)										
Methylene Chloride	--	90 J	--	--	--	--	--	--	--	30 J
Acetone	--	9800 J	1100 J	28000 J	--	79000 J	--	--	--	--
1,2-Dichloroethane	--	--	--	--	--	--	50 J	--	--	--
2-Butanone (MEK)	--	1700 J	--	16000 J	--	--	--	--	--	--
Toluene	--	40 J	--	--	40 J	--	--	--	--	--
Ethylbenzene	--	--	--	--	60 J	--	--	--	--	--
Xylene (total)	--	--	80 J	--	370	--	--	--	--	--
SEMIVOLATILES										
(ug/kg or ppb)										
Phenol	--	--	--	--	--	2400 J	--	--	--	--
2-Methylphenol	--	26000	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	25000	6600	2800 J	20000	--	--	--	--
2,4-Dichlorophenol	--	240 J	280 J	--	--	--	--	--	--	--
Naphthalene	--	--	--	640 J	8100 J	--	--	--	--	--
4-Chloro-3-Methylphenol	--	310 J	350 J	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	--	280 J	4000 J	--	--	--	--	--
Acenaphthene	--	--	--	590 J	12000 J	--	--	--	--	--
Dibenzofuran	--	--	--	590 J	13000 J	--	--	--	--	--
Diethylphthalate	--	560 J	490 J	610 J	--	--	--	--	--	--
Fluorene	--	--	--	760 J	18000	250 J	--	--	--	--
Phenanthrene	--	220 J	600 J	4700	70000	860 J	--	--	200 J	--
Anthracene	--	--	--	690 J	9100 J	--	--	--	--	--
Carbazole	--	--	--	1400 J	11000 J	--	--	--	--	--
Di-n-Butylphthalate	280 J	240 J	210 J	--	--	--	--	--	--	--
Fluoranthene	--	--	430 J	5400	44000	580 J	--	--	270 J	370 J
Pyrene	--	--	340 J	3800 J	30000	370 J	--	--	240 J	340 J
Butylbenzylphthalate	--	370 J	380 J	--	--	--	--	--	--	340 J
Benzo(a)anthracene	--	--	--	1500 J	7100 J	--	--	--	--	250 J
Chrysene	--	--	--	1800 J	6600 J	--	--	--	--	260 J
ba(2-Ethylhexyl)phthalate	180 J	1300 J	1400 J	790 J	6400 J	230 J	--	--	--	--
Benzo(b)fluoranthene	--	--	--	820 J	4300 J	--	--	--	--	320 J
Benzo(k)fluoranthene	--	--	--	1100 J	3200 J	--	--	--	210 J	220 J
Benzo(a)pyrene	--	--	--	950 J	4200 J	--	--	--	--	320 J
Indeno(1,2,3-cd)pyrene	--	--	--	580 J	2100 J	--	--	--	--	--
Dibenz(a,h)anthracene	--	--	--	310 J	1000 J	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	650 J	2100 J	--	--	--	--	230 J
PESTICIDES										
(ug/kg or ppb)										
alpha-BHC	--	--	--	--	--	72 J	--	--	--	--
Heptachlor	--	--	--	--	--	92 J	--	--	--	--
Dieldrin	--	--	--	--	19 J	--	--	--	--	--
Endrin	--	--	--	--	48 J	--	--	--	--	--
Endosulfan II	--	--	--	--	80 J	--	--	--	--	--
Endosulfan sulfate	--	--	--	--	--	27 J	--	--	--	--
4,4'-DDT	--	--	--	18 J	190 J	--	--	--	--	--
Methoxychlor (Manate)	--	--	260 J	--	--	250 J	--	82 J	--	--
Endrin Ketone	--	--	--	--	30 J	83 J	--	--	--	--
Endrin aldehyde	--	51 J	69 J	--	45 J	98 J	28 J	--	--	--
alpha-Chlorodane	--	--	--	--	32 J	--	--	24 J	--	--
gamma-Chlorodane	--	--	--	--	--	--	--	35 J	--	--
Aroclor 1254	--	--	--	--	1000	--	--	--	--	--
INORGANICS										
(mg/kg or ppm)										
Aluminum	47800	61900	44600	31300	111000	123000	52700	67000	66800	68700
Arsenic	29	88	40	14	34	67	98	67	22	27
Barium	598	593	417	357	812	850	1260	1400	525	1050
Beryllium	03	05	04	02 J	02 J	05	02	05	04	04
Cadmium	--	--	--	--	--	--	--	--	02	--
Calcium	10200 J	236000 J	191000 J	263000 J	320000 J	33300 J	553000 J	53400 J	177000 J	51600 J
Chromium	63	102	73	52	107	127	91	117	106	92
Cobalt	61	83	48	31	45	85	81	202	59	54
Copper	86 J	238 J	154 J	60 J	338 J	255 J	168 J	186 J	121 J	122 J
Iron	82300	262000	141000	110000	146000	388000	297000	154000	110000	106000
Lead	124	232	118	53	155	248	73	304	106	141
Magnesium	9420 J	93000 J	90300 J	52600 J	64300 J	21600 J	254000 J	33000 J	97500 J	28400 J
Manganese	4460	6100	2720	2800	6500	2930	7320	18100	3460	4050
Nickel	79	154	95	58	167	142	150	139	127	106
Potassium	7220 J	13800 J	9420 J	6330 J	7340 J	13800 J	6850 J	8550 J	9680 J	10500 J
Silver	04 J	12 J	05 J	05 J	06 J	18 J	14 J	298 J	06 J	06 J
Sodium	787	5500	3890	7280	5140	3570	3440	1150	1790	1130
Vanadium	123	181	111	80	85	259	166	230	156	151
Zinc	400 J	4030 J	3010 J	268 J	1960 J	1290 J	580 J	460 J	400 J	491 J
Cyanide	03	01	03	02	--	08	--	01	01	01

SITE NAME WASTE HAULING

ILD 000671073

Table 2 1 Water Sample Results

SAMPLING POINT	G101	G103	G104	Field Blank	Trip Blank	G201	G202	G203	Field Blank	Trip Blank
PARAMETER										
VOLATILES (ugV or ppb)										
Vinyl Chloride	--	80 J	70 J	--	--	--	--	--	--	--
Chloroethane	--	1100	970	--	--	--	--	--	--	--
Methylene Chloride	--	20 J	20 J	--	--	--	--	--	--	--
Acetone	--	--	--	140 J	--	--	90	--	140	--
1 1-Dichloroethane	--	440 J	380 J	--	--	--	--	--	--	--
1 2-Dichloroethane(total)	--	480	430	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	07 J	--
1 2 Dichloroethane	--	20 J	20 J	--	--	--	--	--	--	--
1 1 1 Trichloroethane	--	60 J	50 J	--	--	--	--	--	--	--
Trichloroethene	--	40 J	30 J	--	--	--	--	--	--	--
Benzene	--	50 J	40 J	--	--	--	--	--	--	--
Tetrachloroethene	--	150	140	--	--	--	--	--	--	--
SEMIVOLATILES (ugV or ppb)										
Diethylphthalate	--	--	08 J	--	--	--	--	--	--	--
Butylbenzylphthalate	--	20 J	--	--	--	--	--	--	--	--
Chrysene	--	--	--	--	--	--	--	10 J	--	--
bis(2-Ethylhexyl)phthalate	--	1200 J	--	--	--	--	--	--	--	--
PESTICIDES (ugV or ppb)										
INORGANICS (ugV or ppb)										
Aluminum	388 J	--	683 J	619 J	--	--	--	--	--	--
Arsenic	--	--	--	32 J	--	--	--	--	--	--
Barium	707	1610	1570	20	--	520	404	424	--	--
Cadmium	--	--	23 J	06	--	--	--	--	--	--
Calcium	741000	1360000 J	1320000 J	4580 J	--	1340000	868000	884000	--	--
Chromium	--	08 J	27 J	07 J	--	--	--	--	--	--
Cobalt	--	182	170	--	--	--	--	--	--	--
Copper	1180 J	64 J	1670 J	639 J	--	--	--	61	--	--
Iron	1130 J	664 J	944 J	494 J	--	3300	1420	1420	--	--
Lead	114 J	21 J	398 J	380 J	--	--	--	--	--	--
Magnesium	404000	721000	697000	1630 J	--	729000	396000	405000	--	--
Manganese	967 J	10800	10500	204	--	240	61	--	--	--
Mercury	--	03	--	--	--	--	--	--	--	--
Nickel	--	668	624	--	--	--	--	--	--	--
Potassium	3180 J	56800	57300	1110	--	18400	70500	70500	--	--
Selenium	32	--	--	--	--	--	--	--	--	--
Sodium	95800	2020000	1930000	3570	--	394000	232000	260000	--	--
Vanadium	--	--	09	--	--	--	--	--	--	--
Zinc	55 J	44 J	327 J	284	--	--	--	--	--	--
Cyanide	--	--	10	--	--	--	--	--	--	--



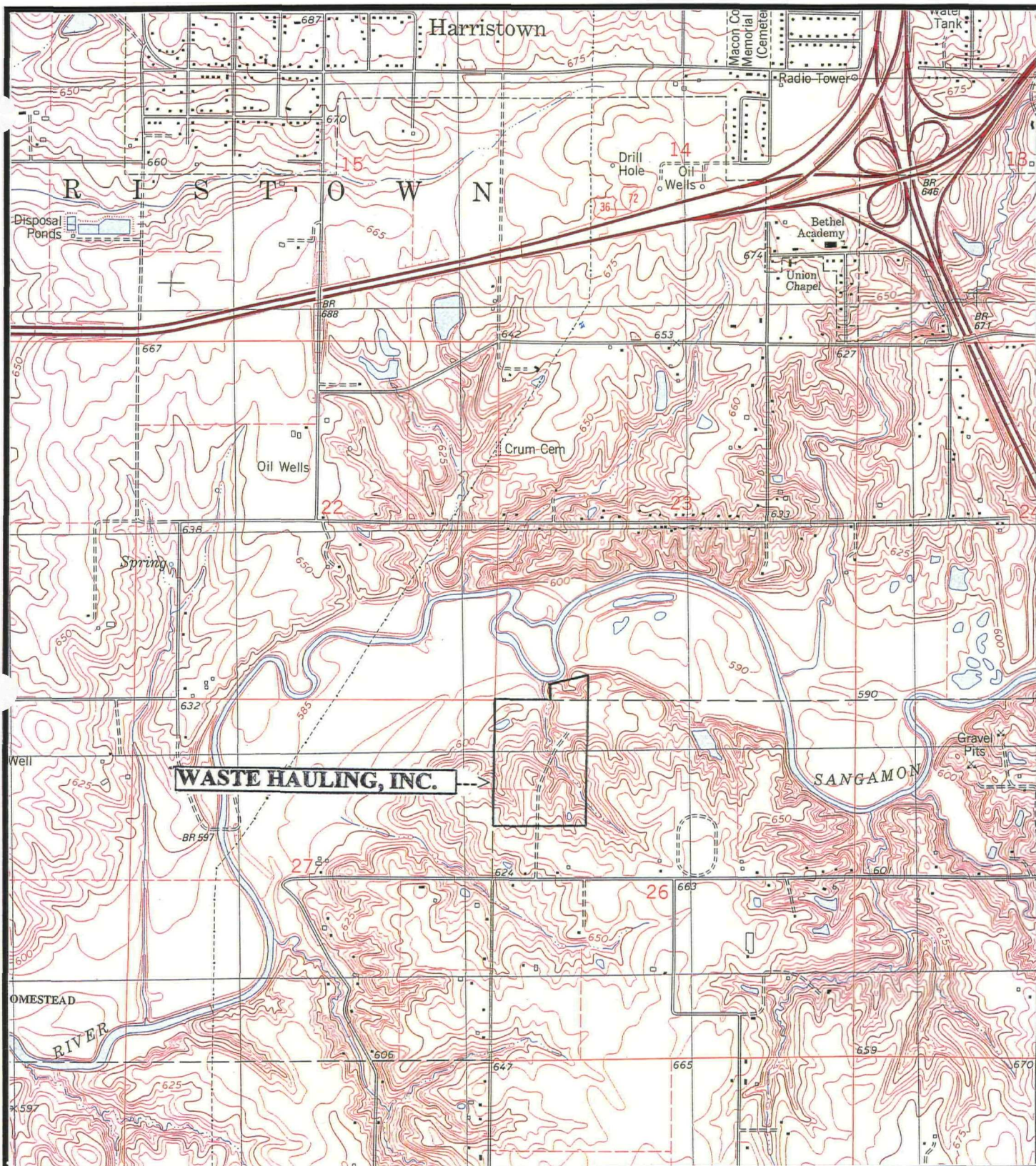
FIGURE 1 SAMPLE LOCATION MAP WASTE HAULING
SOURCE: IL. DEPARTMENT OF TRANSPORTATION
SCALE: 1 inch = 300 feet 3-28-93





FIGURE 1A WASTE HAULING
OFF-SITE SAMPLE LOCATION MAP
SOURCE: IL. DEPARTMENT OF TRANSPORTATION
SCALE: 1 inch = approximately 200 feet 3-28-93



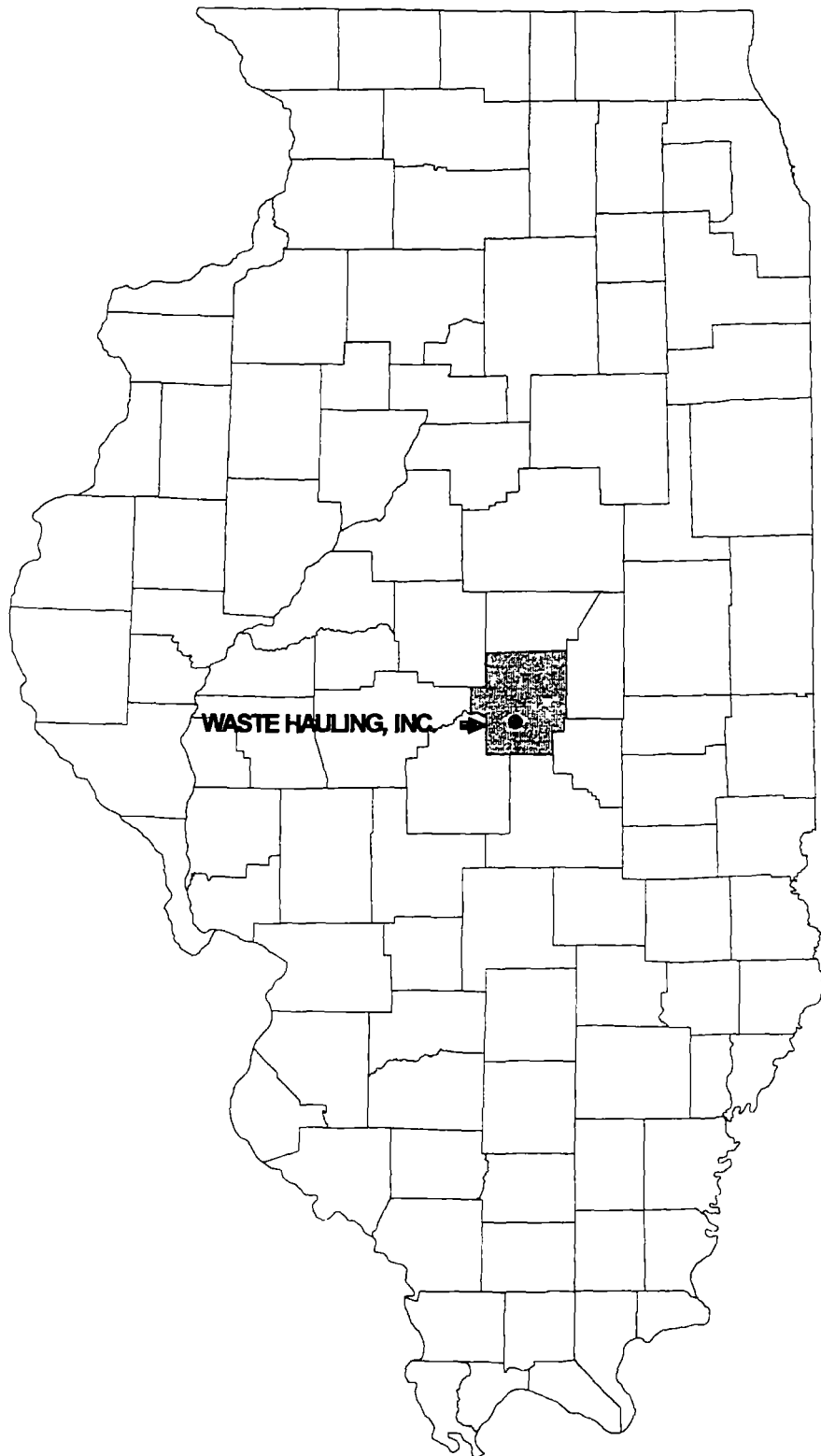


SITE LOCATION MAP

N ↑

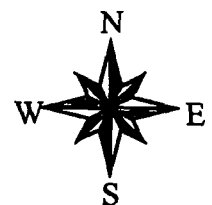
WASTE HAULING, INC. DECATUR, ILLINOIS

FIGURE 2

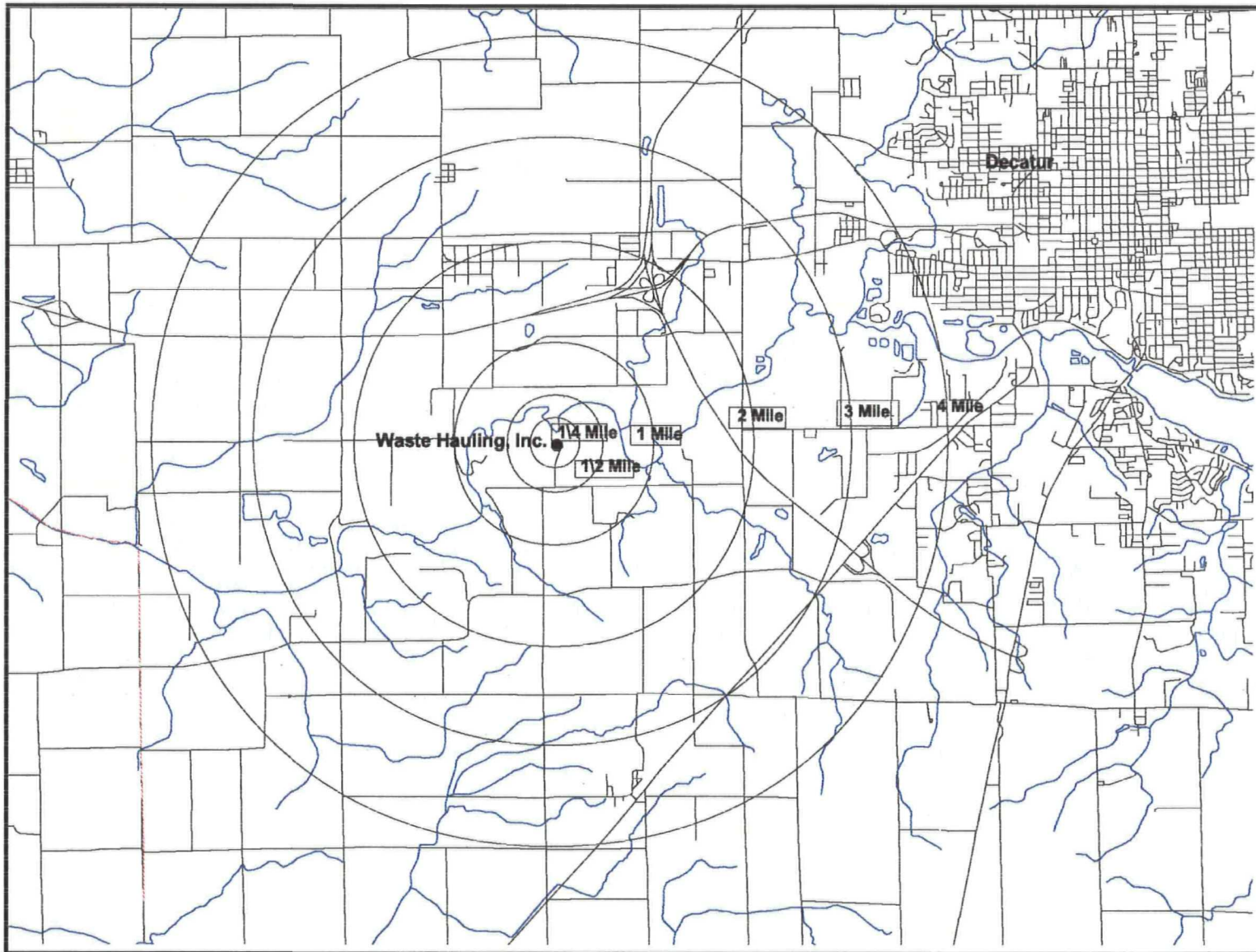


SITE LOCATION MAP

FIGURE 3



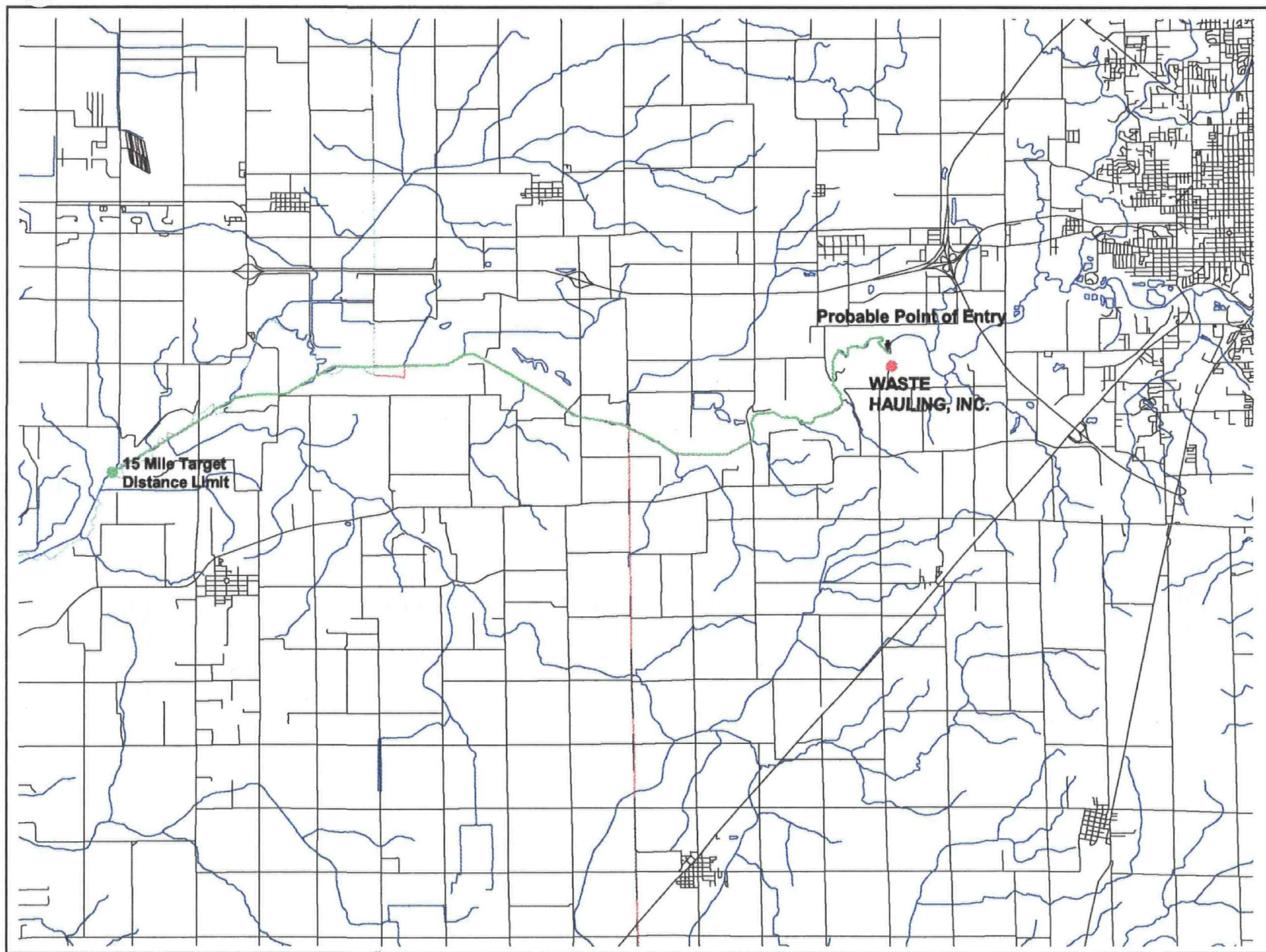
Appendix A
4-MILE RADIUS
&
SURFACE WATER MAP



-  Streams
-  Roads
-  Sangamon County
-  Macon County
-  Christian County

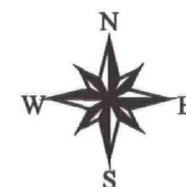
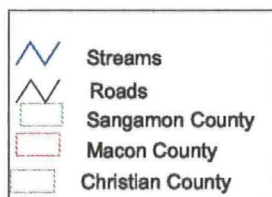
WASTE HAULING, INC.
4 MILE RADIUS MAP





15 MILE SURFACE WATER MAP

WASTE HAULING, INC.



Appendix B
Target Compound List

DATA QUALIFIERS

QUALIFIER	DEFINITION ORGANICS	DEFINITION INORGANICS
U	Compound was tested for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For soil samples subjected to GPC clean-up procedures, the CRQL is also multiplied by two to account for the fact that only half of the extract is recovered.	Analyte was analyzed for but not detected.
J	Estimated value. Used when estimating a concentration for tentatively identified compounds (TICS) where a 1:1 response is assumed or when the mass spectral data indicate the presence of a compound that meets the identification criteria and the result is less than the sample quantitation limit but greater than zero. Used in data validation when the quality control data indicate that a value may not be accurate.	Estimated value. Used in data validation when the quality control data indicate that a value may not be accurate.
C	This flag applies to pesticide results where the identification is confirmed by GC/MS.	Method qualifier indicates analysis by the Manual Spectrophotometric method.
B	Analyte was found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.	The reported value is less than the CRDL but greater than the instrument detection limit (IDL).
D	Identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor as in the "E" flag, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values are flagged with the "D" flag.	Not used.
E	Identifies compounds whose concentrations exceed the calibration range for that specific analysis. All extracts containing compounds exceeding the calibration range must be diluted and analyzed again. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses must be reported on separate Forms I. The Form I for the diluted sample must have the "DL" suffix appended to the sample number.	The reported value is estimated because of the presence of interference.
A	This flag indicates that a TIC is a suspected aldol concentration product formed by the reaction of the solvents used to process the sample in the laboratory.	Method qualifier indicates analysis by Flame Atomic Absorption (AA).
M	Not used.	Duplicate injection (a QC parameter not met).

N	Not used	Spiked sample (a QC parameter not met)
S	Not used	The reported value was determined by the Method of Standard Additions (MSA)
W	Not used	Post digestion spike for Furnace AA analysis (a QC parameter) is out of control limits of 85% to 115% recovery while sample absorbance is less than 50% of spike absorbance
*	Not used	Duplicate analysis (a QC parameter not within control limits)
+	Not used	Correlation coefficient for MSA (a QC parameter) is less than 0.995
P	Not used	Method qualifier indicates analysis by ICP (Inductively Coupled Plasma) Spectroscopy
CV	Not used	Method qualifier indicates analysis by Cold Vapor AA
AV	Not used	Method qualifier indicates analysis by Automated Cold Vapor AA
AS	Not used	Method qualifier indicates analysis by Semi-Automated Cold Spectrophotometry
T	Not used	Method qualifier indicates Titrimetric analysis
NR	The analyte was not required to be analyzed	The analyte was not required to be analyzed
R	Rejected data The QC parameters indicate that the data is not usable for any purpose	Rejected data The QC parameters indicate that the data is not usable for any purpose

TARGET COMPOUND LIST

Volatile Target Compounds

Chloromethane	1 2-Dichloropropane
Bromomethane	cis-1 3-Dichloropropene
Vinyl Chloride	Trichloroethene
Chloroethane	Dibromochloromethane
Methylene Chloride	1 1 2-Trichloroethane
Acetone	Benzene
Carbon Disulfide	trans 1 3-Dichloropropene
1 1 Dichloroethene	Bromoform
1 1 Dichloroethane	4-Methyl-2-pentanone
1 2-Dichloroethene (total)	2-Hexanone
Chloroform	Tetrachloroethene
1 2 Dichloroethane	1 1 2 2 Tetrachloroethane
2 Butanone	Toluene
1 1 1 Trichloroethane	Chlorobenzene
Carbon Tetrachloride	Ethylbenzene
Vinyl Acetate	Styrene
Bromodichloromethane	Xylenes (total)

Base/Neutral Target Compounds

Hexachloroethane	2 4-Dinitrotoluene
bis(2 Chloroethyl) Ether	Diethylphthalate
Benzyl Alcohol	N-Nitrosodiphenylamine
bis (2 Chloroisopropyl) Ether	Hexachlorobenzene
N Nitroso-Di-n Propylamine	Phenanthrene
Nitrobenzene	4 Bromophenyl phenylether

Hexachlorobutadiene	Anthracene
2-Methylnaphthalene	Di-n-Butylphthalate
1 2 4-Trichlorobenzene	Fluoranthene
Isophorone	Pyrene
Naphthalene	Butylbenzylphthalate
4-Chloroaniline	bis(2-Ethylhexyl)Phthalate
bis(2 chloroethoxy)Methane	Chrysene
Hexachlorocyclopentadiene	Benzo(a)Anthracene
2 Chloronaphthalene	3 3 -Dichlorobenzidene
2 Nitroaniline	Di-n-Octyl Phthalate
Acenaphthylene	Benzo(b)Fluoranthene
3 Nitroaniline	Benzo(k)Fluoranthene
Acenaphthene	Benzo(a)Pyrene
Dibenzofuran	Ideno(1 2 3 cd)Pyrene
Dimethyl Phthalate	Dibenz(a h)Anthracene
2 6 Dinitrotoluene	Benzo(g h i)Perylene
Fluorene	1 2 Dichlorobenzene
4 Nitroaniline	1 3-Dichlorobenzene
4 Chlorophenyl phenylether	1 4 Dichlorobenzene

Acid Target Compounds

Benzoic Acid	2 4 6-Trichlorophenol
Phenol	2 4 5 Trichlorophenol
2 Chlorophenol	4 Chloro-3-methylphenol
2 Nitrophenol	2 4 Dinitrophenol
2-Methylphenol	2 Methyl-4 6-dinitrophenol
2 4 Dimethylphenol	Pentachlorophenol
4 Methylphenol	4-Nitrophenol
2 4-Dichlorophenol	

Pesticide/PCB Target Compounds

alpha-BHC	Endrin Ketone
beta-BHC	Endosulfan Sulfate
delta BHC	Methoxychlor
gamma-BHC (Lindane)	alpha-Chlordane
Heptachlor	gamma-Chlordane
Aldrin	Toxaphene
Heptachlor epoxide	Aroclor-1016
Endosulfan I	Aroclor-1221
4 4 DDE	Aroclor-1232
Dieldrin	Aroclor-1242
Endrin	Aroclor-1248
4 4 DDD	Aroclor 1254
Endosulfan II	Aroclor-1260
4 4 DDT	

Inorganic Target Compounds

Aluminum	Manganese
Antimony	Mercury
Arsenic	Nickel
Barium	Potassium
Beryllium	Selenium
Cadmium	Silver
Calcium	Sodium
Chromium	Thallium
Cobalt	Vanadium
Copper	Zinc

Iron	Cyanide
Lead	Sulfide
Magnesium	

Appendix C

Site Team Evaluation Prioritization Photographs

SITE NAME: WASTE HAULING

CERCLIS ID: ILD 000671073

COUNTY: MACON

DATE: Mar. 24, 1998

TIME: 12:40 p.m.

PHOTO BY: Brad Taylor

SAMPLE: G103 & G104

DIRECTION: East

COMMENTS: Well was located north of Area 3.



DATE: Mar. 24, 1998

TIME: 12:40 p.m.

PHOTO BY: Brad Taylor

SAMPLE: G103 & G104

DIRECTION: South

COMMENTS: See comments above.



SITE NAME: WASTE HAULING

CERCLIS ID: ILD 000671073

COUNTY: MACON

DATE: Mar. 24, 1998

TIME: 1:00 p.m.

PHOTO BY: Brad Taylor

SAMPLE: G101

DIRECTION: North

COMMENTS: Geoprobe water sample taken along the access road to the landfill. Approximately 100 yards north of Cantrell Road.



DATE: Mar. 24, 1998

TIME: 1:00 p.m.

PHOTO BY: Brad Taylor

SAMPLE: G101

DIRECTION: East

COMMENTS: See comments above.



SITE NAME: WASTE HAULING

CERCLIS ID: ILD 000671073

COUNTY: MACON

DATE: Mar. 24, 1998

TIME: 2:30 p.m.

PHOTO BY: Brad Taylor

SAMPLE: G201

DIRECTION: West

COMMENTS: Residential well sample located south of the landfill.



DATE: Mar. 24, 1998

TIME: 2:30 p.m.

PHOTO BY: Brad Taylor

SAMPLE: G201

DIRECTION: North

COMMENTS: See comments above.



SITE NAME: WASTE HAULING

CERCLIS ID: ILD 000671073

COUNTY: MACON

DATE: Mar. 24, 1998

TIME: 3:00 p.m.

PHOTO BY: Brad Taylor

SAMPLE: G202 & G203

DIRECTION: South

COMMENTS: Residential well sample located south of the landfill. Outside faucet located on the northwest corner of residence.



DATE: Mar. 24, 1998

TIME: 3:00 p.m.

PHOTO BY: Brad Taylor

SAMPLE: G202 & G203

DIRECTION: East

COMMENTS: See comments above.



SITE NAME: WASTE HAULING

CERCLIS ID: ILD 000671073

COUNTY: MACON

DATE: Mar. 25, 1998

TIME: 7:30 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X203

DIRECTION: North

COMMENTS: Sediment sample taken approximately 50 yards south of where the intermittent stream meets the Sangamon River.



DATE: Mar. 25, 1998

TIME: 7:30 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X203

DIRECTION: West

COMMENTS: See comments above. Photo shows landfill Area 3 in the top left of photo.



SITE NAME: WASTE HAULING

CERCLIS ID: ILD 000671073

COUNTY: MACON

DATE: Mar. 25, 1998

TIME: 8:00 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X202

DIRECTION: South

COMMENTS: Sediment sample taken from the north end of the excavated pond. There were a lot of cattails and willow trees in this area.



DATE: Mar. 25, 1998

TIME: 8:00 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X202

DIRECTION: East

COMMENTS: See comments above.



SITE NAME: WASTE HAULING

CERCLIS ID: ILD 000671073

COUNTY: MACON

DATE: Mar. 25, 1998

TIME: 8:30 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X201

DIRECTION: East

COMMENTS: Sediment sample collected from the intermittent stream, upstream of the landfill.



DATE: Mar. 25, 1998

TIME: 8:30 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X201

DIRECTION: North

COMMENTS: See comments above.



SITE NAME: WASTE HAULING

CERCLIS ID: ILD 000671073

COUNTY: MACON

DATE: Mar. 25, 1998

TIME: 8:45 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X102 & X103

DIRECTION: North

COMMENTS: Leachate sample collected near the base of the southeast corner of Area 3.



DATE: Mar. 25, 1998

TIME: 8:45 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X102 & X103

DIRECTION: East

COMMENTS: See comments above.



SITE NAME: WASTE HAULING

CERCLIS ID: ILD 000671073

COUNTY: MACON

DATE: Mar. 25, 1998

TIME: 9:00 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X104

DIRECTION: North

COMMENTS: Leachate seep collected from the base of Area 3 near the southwest corner. Sheen on top of water and gassing observed.



DATE: Mar. 25, 1998

TIME: 9:00 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X104

DIRECTION: East

COMMENTS: See comments above. High amount of surface erosion on the landfill slopes.



SITE NAME: WASTE HAULING

CERCLIS ID: ILD 000671073

COUNTY: MACON

DATE: Mar. 25, 1998

TIME: 9:45 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X105

DIRECTION: North

COMMENTS: Leachate sample collected on top of Area 3. This sample was collected where hazardous waste drums were ordered, by IEPA, to be removed in 1992.



DATE: Mar. 25, 1998

TIME: 9:45 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X105

DIRECTION: West

COMMENTS: See comments above.



SITE NAME: WASTE HAULING

CERCLIS ID: ILD 000671073

COUNTY: MACON

DATE: Mar. 25, 1998

TIME: 10:15 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X106

DIRECTION: North

COMMENTS: Leachate seep sample collected from the southeast corner of Area 3. Stressed vegetation and foul odor.



DATE: Mar. 25, 1998

TIME: 10:15 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X106

DIRECTION: East

COMMENTS: See comments above. Leachate seep draining toward the excavated pond east of Area 3.



SITE NAME: WASTE HAULING

CERCLIS ID: ILD 000671073

COUNTY: MACON

DATE: Mar. 25, 1998

TIME: 10:30 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X107

DIRECTION: Northwest

COMMENTS: Leachate seep sample coming out of the southeast corner of Area 3. Seep is draining into the excavated pond.



DATE: Mar. 25, 1998

TIME: 10:30 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X107

DIRECTION: South

COMMENTS: See comments above.



SITE NAME: WASTE HAULING

CERCLIS ID: ILD 000671073

COUNTY: MACON

DATE: Mar. 25, 1998

TIME: 11:00 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X101

DIRECTION: North

COMMENTS: Soil sample collected from private residential property south of the landfill. Area 3 is visible in background of photo.



DATE: Mar. 25, 1998

TIME: 11:00 a.m.

PHOTO BY: Brad Taylor

SAMPLE: X101

DIRECTION: South

COMMENTS: See comments above. Photo looking south with private residence in background.

